

Application No. 10/813,532
Amendment dated April 24, 2006
Reply to Office Action of January 24, 2006

Docket No.: 29171/39345

REMARKS

I. Prosecution History

Claims 1-45 were included with the application as originally filed. In response to the restriction requirement imposed by the Examiner, Applicant elected claims 27-44 for continued examination. Claims 1-26 and 45 are withdrawn from consideration. Upon entry of the present amendment, claims 27, 42-44 are amended. Claim 41 is canceled and new claims 46-47 are added. Claim 43 has been redrafted as an independent claim. Claims 27-40, 42-44 and 46-47 are currently pending and at issue.

II. The objection to specification should be withdrawn.

The Examiner has noted a typographical error in the specification and requested correction of the specification. In response, Applicant has corrected the typographical error noted by the Examiner. Accordingly, the objection should be withdrawn.

III. The objection to claims should be withdrawn.

The Examiner objected to the claims for having an inconsistent claim dependency with respect to claim 38. In response, claim 38 has been amended to properly depend from claim 36. Accordingly, the objection should be withdrawn.

V. The rejections under 35 U.S.C. § 102(e) and 103 (a) should be withdrawn.

The Examiner has rejected claims 27-29, 31-32, 34-35, 36 and 39 under 35 U.S.C. § 102(e) for allegedly being anticipated by Lak et al., (U.S. Patent Publication No. 2004/0256395, hereinafter "Lak"), claim 30 as unpatentable over Lak in view of Sharpe et al., (U.S. Patent No. 4,077,921, hereinafter "Sharpe"), and claims 33, 37-38 and 40-42 as unpatentable over Lak in view of Liu (U.S. Patent No. 5,515,216, hereinafter "Liu").

In response, Applicant has amended claim 27 to recite, in part, a reinforcing material comprising a plurality of strengthening fibers, wherein the strengthening fibers have diameters ranging from about 1 nm to about 1 μ m and lengths ranging from about 0.1 μ m to about 50 μ m. Lak does not teach or suggest the addition of such a reinforcing material. Lak teaches the use of a "web layer...which is preferably constructed of a polypropylene netting approximately 1 inch by 1 inches..." (see paragraph [0033] of Lak), but does not teach or suggest providing the use of strengthening fibers at all let alone disclosing the size of the strengthening fibers as recited in claim 27. Moreover, in

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order to reach the claimed invention one would have to discard the "web layer" of Lak. There can be no suggestion to destroy the express teachings of the reference, and therefore no *prima facie* case of obviousness can be established based even in part on Lak. Thus, Lak cannot anticipate claim 27 and those claims dependent therefrom.

While Sharpe does disclose the addition of glass fibers to the foam material to increase the strength of the foam, Sharpe does not teach or suggest the addition of strengthening fibers having diameters ranging from about 1 nm to about 1 μm and lengths ranging from about 0.1 μm to about 50 μm , as recited in claim 27. Rather, Sharpe discloses the addition of 1/4 inch chopped glass fibers and 1/16 inch milled glass fibers to the foam material. Sharpe provides no suggestion to include strengthening fibers of any kind with a length ranging from about 0.1 μm to about 50 μm , as recited in claim 27, nor can there be any suggestion without using the applicant's disclosure as a template. Likewise, Liu does not teach or suggest including strengthening fibers of any kind with a length ranging from about 0.1 μm to about 50 μm in the insulating foam material.

In summary, Lak fails to disclose each and every limitation of claim 27, and Sharpe and Liu fail to teach or suggest the disclosure lacking from Lak. Accordingly, claim 27, and those dependent therefrom, can be considered allowable over the cited prior art.

The Examiner further asserts that Applicants Admitted Prior Art (APA) in combination with Lak and Liu render the invention obvious. The Examiner points to pages 8-9 of the specification as support for this rejection. As discussed above, neither Lak nor Liu, whether alone or in combination, provide the necessary disclosure to anticipate and/or render the invention obvious. Likewise, none of the APA discloses a reinforcing material comprising strengthening fibers as claimed herein. Although strengthening fibers (e.g., carbon nanotubes) have been around since 1991, there is no suggestion that Lak, Liu, the APA, or any of the art relied on by the Examiner, contemplated a reinforcing material comprising the strengthening fibers of the claimed invention.

Furthermore, Lak contains express teachings about what sort of strengthening components are to be used. Lak teaches a 1 inch by 1 inch web layer, which can hardly be viewed as nano-scale components. Liu uses no strengthening components at all. There can be no suggestion in Lak or Liu to use the nanotubes of the APA, without discarding the express teachings of Lak. Liu adds nothing in this regard concerning particle size. Therefore, there is no *prima facie* case of obviousness.

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VI. Conclusion

In view of the foregoing, applicant believes the pending application is in condition for allowance.

As a result of this amendment, one additional independent claim is introduced over the four independent claims already paid for in this application. Accordingly, the applicant please charge Deposit Account No. 13-2855, under Order No. 29171/39345 for the amount of \$200.00 to cover the requisite fee for the consideration of the additional independent claim. No additional fees are believed to be due with the filing of this paper. However, the Director is hereby authorized to charge any deficiency in the fees filed, asserted to be filed or which should have been filed herewith (or with any paper hereafter filed in this application by this firm) to our Deposit Account No. 13-2855, under Order No. 29171/39345. A duplicate copy of this paper is enclosed.

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Respectfully submitted,

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